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Neonatal red blood cell transfusion practices in Switzerland:national survey and review of international recommendations

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Abstract: WHAT IS KNOWN ON THE SUBJECT? Red blood cell transfusions are frequently used in the care of newborns, particularly premature infants. Some countries have guidelines regarding preparation, indication and administration of red blood cells in newborns. There are no such guidelines in Switzerland. **WHAT DOES THE CURRENT STUDY ADD?** This study analysed the results of two national surveys, one among blood transfusion services and the other among neonatal units in Switzerland. The results demonstrate considerable heterogeneity and a lack of “unité de doctrine”. Establishment of national guidelines would be helpful and warranted. **AIMS OF THE STUDY** The aim of the study was to analyse Swiss practices in blood transfusion services and neonatal units for the preparation and administration of red blood cells in newborns. **METHODS** Two questionnaires were developed and their results analysed. A first questionnaire was developed for the Swiss blood transfusion services and local hospital haematology laboratories, and a second for the neonatal units in Switzerland. **RESULTS** 18/25 (72%) of laboratories and 26/29 (90%) of neonatal units performing red blood cell transfusions participated. Responses revealed a lack of consensus for the majority of questions. Differences were found in all steps of the process, from preparation (testing, irradiation, splitting, shelf life and storage of blood bags) to indication and administration (volume, speed, vascular access, patient monitoring) of red blood cells. Forty-six percent of neonatal units stated that they apply internal guidelines. Nevertheless, all but two would welcome the establishment of national recommendations. **CONCLUSION** This study confirmed the large variety in neonatal red blood cell transfusion practices in Switzerland. In the absence of clear evidence, national guidelines – as applied in other countries – would foster a common policy among Swiss neonatologists and facilitate the implementation of a national database for future research and comparison with international literature.

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Supplemental Material



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Appendix 2

Neonatal red blood cell transfusion practices in Switzerland: national survey and review of international recommendations

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Online questionnaire sent to the neonatal units

1. Name of your unit
2. Are you performing neonatal red blood cell transfusions in your unit?
3. From which BTS or hospital laboratory do you order blood bags?
4. How does the nursing staff verify that the red blood cells will be administered to the correct patient?
5. Which parameters of the baby do you document before administering red blood cells?
6. Are you monitoring the baby's vital signs during red blood cell transfusions even though they had not been monitored before?
7. Which vascular access do you use to transfuse red blood cells?
8. Do you use a filter for the administration of red blood cells?
9. Which volume do you routinely administer during a red blood cell transfusion?
10. At which transfusion rate do you perform red blood cell transfusions?
11. Do you routinely check the hematocrit level after/at the end of a red blood cell transfusion?
12. Do you think that national red blood cell transfusion guidelines would be helpful and warranted?